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• EDITORIAL •

New Standards for Office Workers

The past few years have presented an increasing series of shortages in every phase of our economy—and not the least of these has been the scarcity of clerical workers in business and industry. The demand for office workers has been high; wages have, within the limits imposed by wartime controls, been abnormal. Naturally the temptation to break away from school has been great, and numberless students have left business schools and colleges scarcely more than half-trained. Now, when the end of hostilities has been declared, and heavy cut-backs are imminent, it is time to take stock and question what standards of competency business will require of its clerical personnel in a relatively free employment market. Nor can we look back to pre-war standards; all phases of accounting are progressing to newer methods; job evaluation is beginning to find its place in personnel relations, and a new appraisal of personnel values is to be expected.

A recent survey of education made by Harvard University sets out some specific recommendations for general education, stressing the need for a broader education in the humanities, sciences and social sciences before specialization in any particular skill or trade. This indicates a longer period of academic schooling and points the way to longer courses of specialized study. Despite the inevitable economic limitations to such a desirable program, the fact remains that greater specialization and broader general knowledge will be requirements of future office employees, and business courses will of necessity be longer.

A crying need also appears to be for more practical training. We do not at this point question the academic standards of the teaching staffs, but it might be interesting to know how many teachers (particularly in high schools of commerce) have had actual experience in an office. Certainly job applicants in the last three or four years exhibit a lamentable deficiency in appreciation of what they are expected to do in an office.

It is not the purpose of this editorial to set out a specific curriculum for business training, but rather to point out certain general standards that should be observed. We believe a more extensive course in bookkeeping is needed, but in any event some principles must be stressed until they become part of the student's nature—the need for accuracy, the meaning of "balancing", the importance of clear, legible work.

To an ever increasing extent accounting will turn to machine methods. Even the small office now usually has an adding machine—yet the job applicant fresh from school can seldom use a common ten-key adding machine by touch, or be relied on to put a roll in the machine right side up.

Something must be allowed for hasty and incomplete wartime training, but observation and experience indicate that most recent job applicants have much to learn about office deportment. We can readily appreciate

the conditions that prompted the restaurant owner to post a notice, "Please be polite to our waitresses; we can get customers any time," but soon the customer will come into his own again, and a careless or insolent reply by an employee to a prospective customer will certainly not win business for an employer.

Finally, it should be noted that the foregoing observations refer to general clerical personnel. The accountant has the responsibility of directing the office staff and the time is here when we, as accountants, should be considering the standards we will look for in our office personnel—and working towards higher levels than during the past few years.

Our Magazine

In this issue, there are certain changes in the composition of our magazine which it is our sincere hope will improve its value to our readers.

A section is devoted to students and is divided into two parts — one for General Accounting and the other for Cost Accounting. General Accounting will be under the direction of Mr. H. P. Wright, C.G.A., R.I.A., and the Cost Accounting will be under the direction of Mr. A. V. Harris, C.A.

Questions taken from our examination papers in each of the General Accounting and Cost Accounting subjects will be published together with model solutions and a brief explanation for the benefit of the students based upon the weaknesses shown in the answers submitted in the examinations.

A section is also being devoted to current legislation. This section is under the direction of Mr. Adam C. Zimmerman, B.A. As a corporation lawyer, Mr. Zimmerman is well qualified for this undertaking. It is our desire to bring to the attention of our members new regulations and amendments which are of interest to them with a very brief explanatory note. Any major legislation will, of course, be reviewed in greater detail by a special article.

In this issue, a third section is introduced under the direction of Mr. Harold Bricker, C.G.A., R.I.A. Mr. Bricker will endeavour to provide a digest of interesting articles appearing in other publications and to keep the members posted on new developments. It is also our desire that this section shall be enlarged to cover reports on research.

Our readers are invited to submit their comments whether it be in the form of criticisms or suggestions for only in this way can we make further improvements which will meet with universal approval.

A Uniform Name

The response to the letter sent out by Mr. J. B. Tennant, R.I.A., Chairman of the Committee for selecting a uniform name, has been very gratifying, indeed. Numerous letters have been received from all parts of Canada and some very excellent suggestions have been made. The Committee is deeply appreciative of the wide interest taken in this matter and they will submit a report when they have had an opportunity to make a complete study of the suggestions put forth.

New Members

Niagara
William M. Scobie, Grout's Ltd., St. Catharines.
Ottawa
William H. Carley, Ottawa Car & Aircraft Ltd.
Toronto
D. R. Reynolds, Manufacturers' Life Insurance Co.
J. H. Trewin, A. W. Robertson Limited.
Vancouver
Major H. W. Selbie, On Active Service.
David O. Davis, Kimberly, B.C.
R. A. Chalcraft, Canadian Sumner Iron Works Ltd.
John A. Hunt, Consolidated Mining & Smelting Company of Canada, Ltd.
Windsor
K. G. MacLuckie, Bank of Montreal.
Charles Ambery, On Active Service.
Non-Resident
Richard Scott, 254 Inglewood St., St. James, Manitoba.
Glenn I. Howell, On Active Service.
Calgary
Joseph C. Doan, Dept. of Public Works, Alberta Provincial Government.
Hamilton
Gordon Kimmins, 53 Chatham St., Brantford.

INDUSTRIAL ENGINEERING

The tremendous expansion and readjustment of the industrial plants in recent years has emphasized the importance of scientific methods in the development of the plant and the distribution of equipment. The proper flow of both raw and finished materials, the proper management of the personnel, and the proper protection of those at work — all call for scientific study.

A good technical background in mechanical and electrical engineering and in shop equipment and practice is necessary in order that the functions of the various departments may be understood and analyzed.

Graduate members of the Society will find this I.C.S. Course comprehensive and adequate for their requirements; and I.C.S. "training" a new experience in educational achievement.

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Current Legislation

By Adam C. Zimmerman, B.A.

Income War Tax Act

The provisions of paragraph (m) Section 4 (1) have been extended to include income derived from the operation of aircraft and is within the jurisdiction of the Department of National Revenue.

That section of the Act, as now amended, provides that the income from the operation of ships or aircraft owned or operated by a non-resident person or corporation shall be exempt from Canadian Income Tax provided that the country where such person or corporation resides grants an exemption in respect of income earned therein from the operation of ships or aircraft owned or operated by a person or corporation resident in Canada which, in the opinion of the Minister, is fairly reciprocal.

The reader will note that there is no definite basis upon which this exemption is or may be allowed but that it depends upon the discretion of the Minister.

War Exchange Tax

Order-in-Council 87/5045 authorizes the payment of drawback of 100 per cent. of War Exchange Tax paid after 14th May, 1945, on articles and materials used in the manufacture of machinery and apparatus supplied to Canadian manufacturers in connection with the production of goods in CANADA.

The goods include motive power and complete parts thereof but exclude motor vehicles, office or other appliances or office supplies.

Before receiving the drawback or any part thereof, the applicant is required to furnish evidence to the Department of National Revenue of the validity of his claim and to complete certain forms provided by the said Department.

Goods of Enemy Origin

Effective on and after 7th July, 1945, trading may be resumed with persons or corporations residing in the following countries: Channel Islands, Czechoslovakia, Denmark, Greece, Luxembourg, Netherlands, Norway, Philippine Islands and Yugoslavia.

Excess Profits Tax Act

Order in Council 148/5311 provides that where, in the opinion of the Minister of National Revenue, a taxpayer's profits in any fiscal year ending in any of the years 1940 to 1943 inclusive are derived from the carrying on of a business substantially different from the class of business carried on by the taxpayer in either (1) the standard period or (2) any fiscal period thereafter preceding the year under consideration, the Minister is empowered to have the taxpayer's standard profits ascertained by the Board of Referees.

In the case of a taxpayer deriving an income from a business collateral to or aside from his main business, the Minister reserves the right to fix that taxpayer's Standard Profits. The word substantially may cause some conflict in interpretation and again the decision rests with the discretion of the Minister. There is no precedent for determining what constitutes a substantial departure from a taxpayer's chief or main business.

Current Literature Digest

By Harold Bricker, C.G.A., R.I.A.

Authoritative comments, announcements and articles are informative and interesting to the business men of to-day. We hope that the digest of items borrowed from other publications, and hereby acknowledged, will prove worth while reading.

WHAT OF THE BRITISH EMPIRE TRADE IN THE POST-WAR PERIOD?

(From the Financial Post)

STERLING EXCHANGE is the medium of conducting British foreign trade. A recent comment states that now that the war is over, there is a feeling that the gradual relaxation of the exchange restrictions is desirable and accordingly the first step was to lift the guarantee by the British Treasury of the fixed conversion rate of $4.02½ U.S.A. dollars for the pound.

This freeing of the pound gave rise to some uncertainty in the exchange which tended to restrict trade. This situation has been quickly stabilized by the Bank of England guaranteeing this stated figure on demand. This knowledge induced many to hold sterling where otherwise they might have thrown it on the market. The sterling rate, meanwhile, remains pegged and it is believed will remain so.

Canadian residents are not affected by the move other than as an indication of the tendency toward the relaxation of restrictions. Some relaxations of more direct interest to Canadians, are those permitting the transfer of larger amounts of sterling to this country from the United Kingdom. It is understood from the announcements, for example, that British estate transfers to this country, formerly only 100 pounds, may now be 1,000 pounds. Residents of the United Kingdom who married Canadian service personnel are now allowed to transfer 5,000 pounds over a four year period; this would be at the rate of about 1,250 pounds per year.

United Kingdom borrowing abroad will be kept to a minimum so as to work toward a balance of imports by exports. Foreign borrowing will be confined to the reconstructing of British industries and the merchant marine.

Before removing all controls it is hoped in this way to further strengthen the British pound.

REAL CAPITAL — COMMODITIES OR EQUIPMENT!

(Editorial, July issue Accountants Magazine)

The rehabilitation of our industry does not in the first place depend upon the supply of financial capital, but upon the careful control and apportionment of the scarce physical capital. Any shortage will not be of money, but of men and materials.

In the early post-war period it will probably be necessary to restrict current consumption so that capital equipment can be renewed and augmented, and the export trade rehabilitated. A sound system of priorities

will have the effect of holding in check the demand that can become a positive danger if our vast liquid resources are allowed to flow freely. As capital equipment is gradually improved and built up, the consumptive demand can then be allowed to become more effective, so that all concerned will reap the reward of their earlier abstinence.

In due time, however, the scarcities will be made good, and the abnormal demands of the re-equipping and re-stocking period will gradually lessen. When the equipment build-up has been completed and the normality of demand attained, the question then arises, will there, at that stage, be any shortage of financial capital? The answer of the economist is "No". Money for sound industrial projects has always been forthcoming and will be in future.

It is not often realized that the war-time savings are of no practical use to this country for immediate purposes of reconstruction and re-equipment. All the liquid resources of the community, whether in the form of bank deposits, Government bonds, tax reserve certificates or war savings certificates, are in practice claims on future resources. Capital equipment can only be obtained by means of future savings, and to cash in on savings and use the proceeds to support a demand for consumption goods will only aggravate the existing shortages.

There may, however, be such a demand for capital on a scale and in a magnitude to which financial institutions do not feel able to cater. The various financial assistance programs have been provided to meet this type of demand for capital, by the government.

One must bear in mind that the arrangements being made for adequate amounts of large scale monetary capital do not obviate the necessity of carefully controlling our scarce physical capital. In this there is no contention that there is not an abundance of liquid capital.

HOW CAN INDUSTRIAL AND COST ACCOUNTANTS ASSIST INDUSTRY AND COMMERCE IN THE POST-WAR PERIOD?

(By F. F. Cairns, F.F.I.A., in the Federal Accountant, June Issue)

Are the standards of economic conditions before the war going to continue after the war? Do we desire such conditions to return?

We are thoroughly aware that the pre-war economy did not fit into the war economy. This was suffered knowingly in prohibitions, quotas and rations through priorities. The fact that our economic system failed and had to be corrected in this way is occupying the minds of thoughtful men the world over.

A suggested pattern for a system designed to overcome these fundamental problems has been prepared by the London Chamber of Commerce in a paper entitled, "The principles of a Post-war Economy". Some of the problems that the post-war economy must overcome include the following:

1. Objection of under-populated countries to receiving immigrants from those countries with a surplus population must tend to disappear. This of course refers to would-be immigrants of the right type.
2. The problem of differing national economies must be adjusted. Nations must be enabled to live in the same world without these differences constituting a threat to the continued existence of one another's economic systems.

3. The distribution internally of the purchasing power so necessary to enable the populated nations to consume the whole of their own production. This, of course, does not mean that a nation cannot consume the goods of other nations which they might exchange for their own production.
4. International trade must be raised to its true function in that there must be nothing more or less, than an exchange of goods and services of a mutually advantageous character. The elimination of the fear and hostility from the struggle of all nations to obtain "an active favourable balance of payments." There must be no penalty of the vanquished being placed in economic servitude to the victor.

No solutions are offered. It is inferred that the individual nations will solve the situation under their own economics. The time will come when pronouncement of public policies on these and many issues of grave and general concern will be due and expected by the community.

There will be handicaps but we can somewhat envisage the conditions of the transition period in the following:

1. The retention of Government controlling agencies for co-ordinating factors for trade and industry.
2. A shortage of the basic raw materials of certain classes will continue.
3. An extensive reconversion of wartime plants to peacetime production.
4. There will be an interdependence and co-operation of employer-employee relations. The rise of the power of labour may well suggest that the great manpower problem will be controlled through the medium of a "works-council".
5. Air transport and aviation will have a tremendous impetus.
6. Lend-lease and reciprocal lend-lease principles might conveniently be implemented within the British Empire.
7. Government participation in import and export policies for better bargaining power, market equalization and the promotion of plans for the exporting of surplus production.
8. Continued price stabilization through control.
9. The development of many substitute and new materials through scientific research resulting from the vast forward strides made as a result of the war, for the use of peacetime industry.
10. It is conceded that high taxation will continue for some time so that the Government rehabilitation and social service schemes may be achieved.

The pre-war Industrial and Cost Accountant, during the war years, due to the burdens of Government controls, shortages of materials, supplies, labour and staff troubles, was grievously overworked. However, the racking, forging, heat treatment or whatever one might call it, has brought him definitely into the executive material class. His help and co-operating assistance to management in the war years has only served to establish him as an executive assistant of his organization.

The days of the bookkeeper, purchasing agent, credit man, office manager cost accountant are gone. He has through professional accountancy blossomed out into an indispensible leader in industry and commerce. Without his able assistance, the ramifications of priorities, taxation, price control,

the cost recording involved in war contracts would have been beyond the capacity of the most highly controlled organization.

Accounting has grown from the records of debts owed to and by other persons, including the historical record in statement form of what the business did profitably or did not do for a loss, through the rights and interests of the proprietors, to the to-day and to-morrow basis of information in all forms that aid in business management.

The advent of cost accounting, which although far from being universally adopted, is nevertheless exerting a wonderful influence on secondary industry, has paved the way toward a more exact study of the science of business and industry. The biggest debit to date is the failure of the accounting profession to adopt a greater social outlook in its work. There has been a trend from conservation and a readiness to try new methods and new systems. It has, however, not faced the problem of reconciling its duty to its employers with its duty to the community.

While policies in business operation were largely subject to the company laws and taxation requirements, these were the measuring margins of records. The urgent need, in this post-war period, arises for complete independence of judgment,—that aloof outlook which will determine the figures which should appear in the balance sheet from the point of view only of fact and faithful presentation. This vital aid and improved service in the post-war period will conform to the continuance of scrutiny by Government agencies and others interested only in the true facts of the business and its operation. This is indeed the field of the Industrial and Cost Accountant.

CORRECTION IN LAST ISSUE

The following list of Directors of The Canadian Society were omitted:

Chas. P. Dumas, M.C.I., L.C.M.I., Montreal.
R. H. Metcalfe, R.I.A., Toronto.
H. M. MacDiarmid, R.I.A., Toronto.
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M. A. Gilmour, R.I.A., Vancouver.
E. R. McGee, R.I.A., Windsor.
J. B. Tennant, R.I.A., Windsor.

Production, Utilization and Costing of Nylon

An Address delivered before The Cost and Management Institute, Montreal, by Ray H. Bissell

For centuries man has been striving to find something new and different. In ancient times the favourite pastime of the scientists of the day was the study of alchemy in which it was hoped to find a way of making base metals into gold. In modern times it is fundamental research which has as its objective the finding of something entirely new.

In 1928 du Pont chemists began a program of fundamental research to learn more about how and why small molecules—nature's building blocks—unite to form giant molecules like those found in silk and rubber.

It was not until ten years later that the development had progressed to the point where, among other possible applications, textile fibres could be spun with higher strength and extensibility than any previously known.

The name given to this newly-discovered product was nylon and it may be produced in a wide range of forms such as a fine textile fibre, a coarse bristle for brushes, a moulded solid, a sheet or film, an insulating coating for electric wiring, etc.

While it is true the nylon is derived from coal, air and water, it is accomplished through an intermediate product, benzene, which is a derivative of coal tar. This, combined with nitrogen and oxygen from the air and hydrogen from water by a complicated and costly series of chemical processes, eventually produces a product known to the chemists as a superpolyamide.

The entire nylon process must be operated under conditions which allow only slight variations throughout the different seasons of the year. The manufacturing area of the Kingston plant was, therefore, designed to give carefully-controlled temperatures and humidity the year round and in order to accomplish this the building was erected without windows and is insulated with two (2) inches of cork on the outside walls and roof.

Until the demand reaches a certain level the amount of nylon to be manufactured in Canada cannot justify its production from the basic materials. Instead, nylon flake is imported and the manufacturing operation in Canada thus begins with melting the flake at around 500 degrees F. and pumping it through a spinneret in which there are a number of very fine holes.

The secret of nylon's great strength lies in the cold drawing process in which the spun filaments are stretched to over four times their original length thereby re-arranging the molecules so that they will all be parallel. From then on, there are several ways in which the yarn may be treated depending on the final use. For instance, it may be twisted to 7 or 10 turns per inch to hold the filaments together, coated with a size solution to protect the fine filaments from damage, covered with coning oil to act as a lubricant and wound on a cone, shipping bobbin or spool depending on the purpose for which the yarn is to be used.

Physical Characteristics

Textile fabrics, as you all know, are made in two ways, either by knit-

ting or by weaving. The object of knitting is to produce a loop rather than a straight thread. By passing the yarn around the shank of a needle in a wavy formation, a spring-like length of thread is produced which is capable of being stretched much more than if it were straight as it is in a woven fabric. When this looped thread is stretched and released it returns more or less completely to its original shape.

Thus a knitted fabric has a greater fabric elasticity than has a woven one and conforms more closely to the body. The rate and extent of the recovered stretch is determined by a property which may be called springiness or bending elasticity. While this is present in all textile fibres to a greater or less extent, nylon, being also a plastic, has the unique property permitting garments made from it to be set to shape—which shape will be retained with a variation of only 1 or 2% even after laundering.

It might be mentioned here that parachute cloth is made by weaving and, therefore, will not run when it is torn in the way that a knitted fabric like a stocking does when a thread is broken.

After nylon parachute cloth is woven it is given a steam treatment to set the weave and impart a fixed porosity to the fabric and, incidentally, being designed especially for parachute fabric it is not a suitable cloth for commercial application.

In the same way a nylon stocking, after it is knitted, is put on an aluminum form and subjected to steam for a few minutes in a pre-boarding machine, thus giving each stitch a permanent crimp.

The fact that nylon absorbs very little moisture thus giving it quick-drying properties is a great advantage for certain uses, while being resistant to mildew it is in great demand for a variety of textile uses in the South Pacific war. Not being a food for moths or other insects, nylon is considered moth-resistant in that it contains no nourishment for them and they will eat it only as a last resort.

These are the characteristics which made nylon such a high priority war material, in fact, much more would have been used by the Armed Forces if it had been available.

The limiting factor in the production of nylon is the productive capacity of the complicated and costly chemical plants required to produce at high temperature and pressure the various chemicals used in the manufacture of the nylon flake.

War Uses

Since shortly after the beginning of the war man-bearing parachutes have consumed the largest proportion of nylon, utilizing to full advantage the strength, extensibility and toughness characteristics. A considerable quantity has also been used for very large cargo chutes used in dropping jeeps and other heavy equipment for airborne troops. It has likewise proved to be of great value in glider tow ropes and cords for the fabric of bomber tires. According to reports that came out of Guadalcanal, the jungle conditions were so hard on the original equipment supplied to American troops that after two or three weeks their shoes had completely disintegrated except for the rubber soles and the nylon shoe laces. In many cases because of the action of termites in the jungle, the original cotton hammocks and netting issued to the troops did not even last one night. Because of its

resistance to the fungi which cause mildew and rot and also to termites, nylon is becoming increasingly important in the Southwest Pacific for tents, ponchos, hammocks, insect netting, jungle boot fabric and shoe laces.

Post-war Possibilities

The same properties that make nylon so well suited for war purposes also make it ideal for ladies' hosiery. There are about two miles of thread in a pair of stockings and about 500 miles in a parachute. A glider tow rope takes as much nylon as 1,000 pairs of stockings and a marine hawser that towed a dry dock half-way around the world used as much as 400,000 pairs of stockings.

As a matter of interest one of our technical men estimated last Fall that the Kingston plant had already produced, since its commencement in the middle of 1942, a poundage of yarn equivalent in commercial deniers to 66,000,000 pairs of nylon stockings—and it was all used by the Armed Forces. One can thus readily realize why nylon has become one of those almost legendary things you hear about but seldom, if ever, see.

Some of the post-war uses for nylon indicated by the rather limited experimental work carried out before all efforts were turned to war developments are full-fashioned and circular hosiery, foundation garments, warp-knit fabrics and accessories such as gloves, handbags, umbrellas, etc., for the ladies. For the men, fishing lines and leaders probably come first, then ties, socks and shoe laces.

One of the first uses developed for nylon was in the form of a coarse "monofil" to replace hog bristle in tooth brushes and for the past two or three years practically all tooth brushes manufactured have utilized it to advantage..

In the form of tapered bristle it is used in making paint brushes for the Armed Forces and wears at least three times as long as the natural bristle formerly used.

In addition to being particularly well suited for numerous types of industrial brushes its strength, resilience and moisture resistance indicate extensive use for tennis and badminton racquet strings. After the war, nylon will again be used in solution form to insulate electric wires and as a moulding powder, its great toughness, high heat resistance and low specific gravity will ensure its use for various moulded articles where these properties are of utmost importance.

The Costing of Nylon Yarn

The method used in costing nylon yarn follows more or less orthodox lines as far as the allocation and accumulation of charges are concerned, but the multiplicity of types, deniers, twists, sizes, packages, etc., necessitated the use of certain features which would allow distribution of these costs to the individual products.

Nylon yarn is costed monthly by the process method and costs are obtained by yarn types rather than by production orders or special lots. The unit of costing the finished product is the pound of packed production and because yarns are produced in a variety of deniers, types and finishes, and on different packages and put-ups, there is a considerable range in the final cost of a pound of nylon yarn. This requires a system of costing that will accumulate direct processing charges by operation or area since all

yarns do not utilize every step of the process and which will also accumulate indirect manufacturing costs in such a manner that a reasonable and practical method of distribution to the product can be made.

All costs incurred at the plant are classified and allocated as incurred according to the cost code list. The cost accounts in general are arranged to classify all costs on a departmental basis, i.e., direct processing costs are allocated to direct operating department accounts each of which corresponds to one operating process from the original operation of spinning to final inspection and shipping. Indirect costs incurred at the plant are allocated to accounts representing individual service departments in the works. These include accounts for the expenses of the personnel department, shops, development laboratory, office, stores, etc., each of which corresponds to the responsibility of a department head.

Finally there are miscellaneous indirect cost accounts which consist of charges for centralized Head Office service departments such as Purchasing, Engineering, Traffic, etc., Company welfare plans, depreciation, insurance and taxes.

The following is a brief summary of the main classifications of items of cost appearing in the departmental accounts:

Raw Materials and Essential Materials:

The main item of raw material in the production of nylon yarn is nylon flake, the cost of which is charged to the spinning operation. Other raw materials are solutions and finishes used in processing the yarn, i.e., spinning finish, size solution, coning oil and the ingredients used in their manufacture, all of which are charged directly to the operation in which they are used.

Essential materials of importance to the nylon yarn process are spools, cones, bobbins and shipping containers. These are likewise allocated to the cost account for the operation to which they are issued at the time of issue, i.e., spools issued are charged to spooling, cones to coning, bobbins to drawtwisting and cartons to inspection.

Labour Costs:

In a similar manner all labour costs (including workmen's compensation and unemployment insurance) incurred are charged to a departmental account in the code list. The wages of spinning operators and foremen are charged to the spinning account, and the wages of textile operators and foremen to the particular area in which they are employed (coning, sizing, spooling, etc.). Maintenance of machinery, equipment and buildings is allocated to the account for the operation or services department for which it is performed.

All other payroll earnings are subject to a similar distribution: material handlers' wages are charged to storekeeping, guards to plant protection, etc.

Supplies:

All operating supplies and maintenance materials are issued to operations and service departments from a central storeroom and at the time of each issue the appropriate departmental account number is shown on the requisition. In view of the nature of the product and the intricate high speed machines required for its processing, the production of nylon involves a considerable expenditure in maintenance materials and these are charged

to the operation for which the material is used. Supplies for either operating areas or service sections are charged to the account for the area concerned. At the end of the month the charges for each department are accumulated in an analysis of stores issues and charged in total to the account concerned.

Other Charges:

Items of expense which are not controllable by departmental supervision are, in general, allocated to miscellaneous indirect cost accounts such as depreciation, insurance, taxes, Head Office services, etc., and are distributed to the cost of the products separately at the end of the accounting period.

When all costs incurred for the cost accounting month have been completely analyzed, it is necessary to impute these costs to the month's yarn production.

Distribution to the Product:

When all charges for the month are accumulated, an analysis by departments is obtained (Operating departments, Service departments, etc.) and the miscellaneous indirect expenses are also available in separate accounts.

The costs of the direct operating departments accumulated by process or area are allocated to the yarns actually processed in the areas during the period. By means of careful yarn identification utilizing multi-coloured cellulose tape and identification discs on all packages of yarn (indicating the manufacturing codes and merge numbers) throughout the process, records of each type of yarn packed are prepared at the month end. A physical inventory of goods in process in each area is made and by calculation the quantity is obtained for all yarn (whether packed or still in process) that has gone through each process or area.

Each type of yarn bears a share of the cost of these areas through which it passes in proportion to the theoretical maximum machine output per month for each type of yarn.

In general all direct costs are allocated on this basis.

Indirect costs are pro-rated over finished yarn production on a "per pound" basis which is likewise weighted according to machine time by the use of spinning speed factors.

When the distribution of area costs and indirect costs is thus completed, all manufacturing costs for the month's production are totalled and transferred to the finished goods accounts at cost. The finished goods accounts form the basis for costing yarn sales for the purpose of preparing a monthly statement of sales, gross profits and net profit.

In addition to the finished product costing, the cost records are organized on a departmental basis which facilitates the preparation of statements to achieve control through the line organization by the attachment of responsibility. A rather complete set of cost statements is released to departmental supervisors each month to show controllable costs on a departmental basis as well as the source and distribution of total production costs.

Post-war production will bring problems of a larger number of yarns for special purposes and many refinements of the costing procedure are already in the planning stage, but the groundwork laid in the first few years of operation reveals that the costing system is sound and adaptable.

The "Human Factor" in Labour Relations

By Harold Bricker, C.G.A., R.I.A.

(Copyrighted)

The war is not over and will not be over until the Nippon situation is brought under control. However, due to the new type of munitions required in that sphere, certain materials have been released for civilian production. There may not be more than a token trickle of certain items for some time, but there will probably be enough so that industry may set up production lines and manufacturing procedures for the new goods to be made for the post-war markets.

The "tooling up" for peace time manufacturing involves not only materials, but the corresponding labour preparation and education. War time employment will become peace time employment. The reduction in munitions production and the introduction of token civilian production serves to minimize an otherwise violent dislocation which would result if the manufacture of munitions over the whole country had been discontinued at one and the same time. In this policy of gradual turn over, unemployment is being kept at a low level and continuous employment is being promoted so that the earnings of population keep the economic machinery functioning. As a nation we are carrying on, while at the same time contributing our share to the reconstruction and rehabilitation of the world at large.

Our program is basically sound and theoretically devised from historical economic statistics. Materials and products can be stated in figures which may be consistent in trend through periods of time and reflect comparative conditions. The use of labour and value of labour are not consistent for periods of time. On the other hand labour conditions are continually changing. This is quite evident in recalling working conditions and wages of to-day with those of the year 1944 and back through the years 1938, 1932, 1926, 1920, 1914, etc. If all human beings in their efforts and abilities were comparable, a statistical trend would result. Unfortunately, or perhaps fortunately, as we shall mention later, the "Human Factor" is an ever present disturbing variable. To illustrate, one might mention employee welfare, industrial accidents, work stoppages resulting in production and wage losses. The latter may be caused through ill health and personal reasons to and including strikes. The human factor is responsible for loss of production and only where standardization has been installed to measure effort expended so that it can be tied in with remuneration, does labour materially add to production. Moreover, only where this is appreciated, can it be effectively controlled.

"Labour", as a term which applies to and includes the whole class of workers, artisans and others employed in the production of wealth, is not always uniformly interpreted. Its place in political economy has been defined as the effort for satisfying human needs. There might be said to be three leading factors in production. Land or property and capital supply the economic means with which the production of wealth may be accomplished. These tools are supplied by those who provide money and those

who do mental or administrative work. Labour is responsible for the actual production.

One may say that we know too much about labour. "Give us more of the labour saving machinery." This attitude is due to the lack of appreciation of the history and back ground of our economic structure and labour's contribution to this achieved progress. Primitive production is still in use in the fringes of the highly industrialized world territories. Many of the men of the native nations are physically better than many of our high powered industrial labourers. Neither one could or would attempt to do the work of the other. The "human needs" and the aim in life is different. The mode and enjoyment of living, to be successful in a full life, must be an art so practised that the individual's effort is adequate in providing the full life for his family and in turn tor his community.

We are well aware of local conditions, so let us examine some of the working conditions reported to exist in those primitive countries. It is of course erroneous that the natives are naturally indolent. When one sees a picture of a fat and muscular tribesman, it is obvious that he is not lacking much in the enjoyment of living in his sphere. He is primarily interested in providing the "human needs." His interests may be in some primitive agriculture, fishing, house building, boat building and other occupations that contribute to a personal surplus. His handiwork is the result of a vanity created through the admiration, by his fellows, of his industry. This is very important since it establishes his social stature in the tribe. In primitive society great emphasis is placed on the personal relation of a man and his work. He is delighted with any task for its own sake, since the product is pecularily his own, due to the absence of any widespread system of organized and delegated employment. The opportunity of each man is limited only by his responsibility to his tribe plus his personal effort.

In democratic countries the division of labour is generally consistent, in that, by custom, the woman is no drudge for the man. The woman takes care of the light but regular and monotonous domestic duties while the man takes the responsibility of performing the heavier and more dangerous and more interesting work. The reward for arduous and consistent labour lies in the nature of the motives and the desire to utilize a share of the product. This opportunity for accumulating personal material is a constant inducement to work. With work there are always the other parts of the day and night including eating, sleeping, playing and the field of education and religion.

The word "labourer" has been so generalized in the English language that it is high time that new words less ambiguous and more distinctive are put into use. New words are appearing at a remarkable rate in the language of the younger generation and in the scientific field. A workman or workwoman in the employ of such firms as the International Inc. where their welfare is cared for practically from the cradle to the grave, gives service in an effort that cannot be compared with the lack of effort given on construction, maintainance and similar types of gang operations. Labour unions and organizations are suffering in many cases due to the misinterpretation of the class of employee belonging to their group. When they are producing and working regularly they are appraised as belonging to

the good class of skilled workman. At other times the membership is given the commoner classification due to the rawdyism of a few smart fellows. A word appropriate to each should be devised so that the many good union men are not wrongly described. Labour Unions are necessary in most cases for the welfare of the workmen. They fail in their effort only when their executives exploit either the workmen themselves or the employers. The benefits of political activities to other than the union executives are questionable.

For want of further classification, the general body of wage earners has been labeled "Labour". While many types of services are performed by this class, manual labourers are usually placed in this group. Through time and usage the term "labour" has little relation to actual "work done", in a physical sense. From the beginning of the machine age and more recently in the use of automatic machinery, skill and direction in operating supervision have, with self direction, played a larger part in the sphere of production than the actual physical energies of men or women. In recent years, any valuable services rendered by a human agent in the production of wealth, that is, outside the accumulating and providing of capital or assuming of the risks which are inseparable from responsible planning and direction of the business, have, in a technical or special sense, been credited to the responsibility of labour. In democratic countries, the labourer has the right and privilege of offering his services, ability, skill or products at the best price he can get, whether it be through individual contact or through the bargaining agency of a union. This is the privilege of democratic freedom. Only when the representation on behalf of labour disregards the other elements involved in the enterprise of production, is there any discord in this economic structure's functioning.

It is sometimes difficult to reconcile the methods employed in the determination of values. It would appear, in some cases of negotiation, that the value appraisal ability is substantially prejudiced by ignorance or greed. This condition appears on occasion on the part of both capital and labour. This appears to be a contribution to progress rather than a retarding condition. In this respect it might be noted that in countries where there is no controversy in labour values there is a corresponding lack of industrial progress. In examining countries from west to east, one realizes that the labour supply, in increasingly greater proportion, exceeds the demand. The result is that earnings from wages decline almost to a vanishing point. While the western nations are still to some extent in the developing stage, wages are higher in western monetary terms. History has proven that as a country matures and the population provides a labour supply in excess of the demand the value of labour tends to decline. There does not appear to be such a condition probable in this country for some time, but nothing is permanent. The records of economic progress indicate that there always have been levelling periods and according to trend there will be another levelling period, a deflation period within the next decade. It is true that there is a vast purchasing power in the western countries practically frozen because of the lack of supplies and commodities to be purchased. What will happen when this pent up purchasing power has been dissipated, as it will be, probably sooner than one would appreciate? Remember 1929?

We in these western countries have not yet had occasion to investigate

the "Art of Living". Not all the countries in the world have an economy that invites us to ten hours in going to business and working, two hours for eating, four hours for diversion and eight hours for sleeping and resting. We have progressed from the sixty hour week to the forty-four hour week but other nations may not get as much money out of life but it would appear that their living is not too bad in terms of our living and in many respects a great deal more of actual living. We may be living our allotted time in fifty to sixty years, but is it necessary, or is it worth it? In reviewing the method of living in eastern countries there are some interesting facts in their psychology of the art of living. We are obviously sacrificing our enjoyment of a full life in the experience of civilization and over-civilization. There is reported to have been a high state of civilization in Egypt, India and China thousands of years ago. Some of it has been preserved but much of it has been lost and has disappeared. To a remarkable extent we are living for this life time and hope that the future may take care of itself. The allied nations are planning a permanent peace structure with a hope that the world will be a better place in which to live not only in this country but throughout the whole world. Are we prepared to live according to that plan? Will our working and living conditions be equal to the new responsibility?

The human factor in national labour relations is the unknown element in national progress. The Canada Year Book is the source of various vital and economic statistics. In looking into the history of Canadian progress it is more than ever evident that the human factor is very freely democratic. There are figures that would suggest that the population of Canada increased during the ten year census period of 1901 to 1911 by 34.2%. The increase during 1912 to 1921 was 21.9%. The increase 1922 to 1931 was 18.1%. The increase 1932 to 1941 was 10.9%. The increase 1942 to 1951 will be ??%. The trend during this period is ever downward, and if continued at that trend would eventually come to the point where the increase might be fractional or even go in reverse. That review is statistical. Because of the human factor it would be good practical judgment to assume that the increase in the population of Canada will be much greater due, not to the natural increase, but due to immigration. There are other statistical comparisons covering human occupations. Some of these reflect a percentage of labourers in the population of around 40%. Of these workers at various times there were about 78% men workers and perhaps 22% women workers. The percentage of women workers increased during the war period. There is a lot of worry in some quarters that the number of women workers will increase and that there will be a corresponding decrease in the over all percentage of men workers. Who knows?

In studying economic trends in any form it is always interesting to examine a previous cycle and study the conditions at that time. Some logical guidance may be obtained in a study of the labour condition during and after the first World War when there was a similar shifting of people in occupations. As in this second World War period, from 1915 to 1918 there was a large increase in the number of industrial workers, both men and women. During this period there were many enlistments in the various forces for the overseas expeditionary operations. It would normally be expected that Canada's working force would have been increased perman-

ently during that statistical decade. The human factor played a part in the over all result so that by 1921, the size of the country's working force and the rate of increase in the employment of women, in spite of the losses of men in the war overseas, were found to be just about what they would have been figured from a normal peace time rate of increase. During the few years after the end of the first war, the abnormal working force was shifted and as such apparently disappeared. Of course, this war is different and the labour shifting was more extensive and widespread but, here again, it is a reasonable premise that the human factor will keep the worker's proportion of the population close to the normal projection of a trend that would result from peace time industrial progress. It is therefore conclusive that we would not be unsafe in charting our production course, with respect to labour supply, according to information arrived at in this way.

Labour turnover is and always has been a factor in production. This reconversion period would appear to be nothing more in the long term and statistical view, than a major peak or perhaps a depression from the other point of view. Replacing an employee in normal times was always considered an added expense of production. In this major reconstruction turnover the cost of replacement cannot be higher and quite probably will be lower. The reason for this lies in the fact that the replacements above the normal peace time figure will not necessarily be of the original and non-experienced type. In fact many new employees will be former help that will need very little more than refresher training and then others will be sufficiently trained technically through war production experience to be easily and with perhaps a refresher course brought into the standard production group. Because of this, the cost of replacement should be much lower than the peace time average per person. The amount of the cost depends upon the methods employed in their computation. The considerations generally estimated may include,—the type of industry, the class of occupation, the degree of skill required and offered, the period of training being average,—the cost of hiring, educating technically, training to standard production capacity. In addition to this there may be extra help to maintain standard volume of production, extra power, material supplies and lubrication resulting from lower unit output, which in turn could demand additional equipment to retain the production capacity. In this latter case one might also find charges for interest, depreciation, insurance, taxes and repairs on this etxra investment asset. Nor should one overlook added spoiled work of the new operatives with an excess wear and tear on tools and machinery, increased accident cost, and general loss of goodwill caused by a greater number of mistakes or unsatisfactory service rendered by inexperienced employees. It can readily be appreciated that labour turnover in volume digs deep into cost variations. While it is interesting in controlling turnover, at this time, due to its being an extraordinary conversion period, cost will be, in most cases, charged into a reconversion expense account and many of these interesting considerations will be lost since they are considered of a temporary nature and should not effect the normal production cost. The normal policy of training may, in the urgency, be cut short, so that the direct replacement cost would in any case be uncomparable with that of normal times. This is another of the human factors which so affect the abnormal conditions that in the long term statistical

comparisons these higher conversion and replacement costs are followed immediately by a period of lowered turnover cost and in the overall period the average is generally found to be very close to the historical trend of the peace time cost of labour shifting. It is well to remember that even the most disturbed water will eventually find its own level.

Manual labour is only one of the components adding up to make the materials that move to the eventual consumer and create the trade volume. In spite of the unreliable human component in trade information, the trend is statically recorded over periods of years as trade cycles. Those alternating upward and downward sweeps in the volume of business have been termed trade cycles or business cycles, because they alternately rise and fall and, except for extraordinary periods such as the present war, over a record for the last hundred years, produce a remarkably consistent progressive average. It might be noted here that during the cycle period there are so-called lag conditions due to the fact that consumption, prices, and production, do not definitely follow the general trend of demand and supply. Fluctuation in the consumption of perishable food products is much more severe than the same effect in the steel and iron trade. Subject of course to the type of commodity, price variations are equally severe in perishable and seasonable production.

In comparing the frequency of the cycles, it would appear that the increase in the speed of transportation and communication, the trade movement, has also reflected increased speed in the business cycles so that the upward and downward movements that took ten years, half a century ago, are now appearing in a seven or eight year normal period. This new speed is definitely the result of scientific efficiency achieved by man himself. It is the human effort recorded in economic progress. For this modern trade pace we must give due credit to those men who are responsible for conducting and controlling the operations of modern industry, commerce and finance.

What has this to do with labour? It is part of the background, in fact, it forms the sphere in which workers are enabled to produce the merchandise which, in its flow, creates trade and commerce. Labour contributes the manual effort which through its pulsations, formed by either co-operation or lack of it, sustains or relaxes the trend of the trade cycle.

Is labour co-operating with capital to assure normal peace time production? Here again the human factor is perhaps the mill stone around the neck of labour in its path of good intentions. Before anyone assumes an unfavourable opinion against labor generally, let it be said that union labour and technical labour does, to a remarkable high percentage, give satisfactory assistance to those who are taking the risks and providing the capital through which production is made possible. The unfortunate democratic proportions of this class of worker are not in the majority. The transient and unskilled labour operators have a weight and importance which can, and unfortunately will, ultimately create the leveling in values realized only through a deflation period of depression.

Prosperous and hard "times", during the last one hundred years and more have in all cases been preceded by contributing causes. The conditions following this reconversion period are accumulating, from an economic point of view, inflated values in the manual contribution to production that

cannot be supported by our economic value structure. It is this force, reaching the limit, which will eventually cause a general deflation in that field and its effect will be felt as a percussion through the whole country's industry, business, and service enterprises.

There is a law of "supply and demand". The principle is most clearly demonstrated on our produce markets in various local communities. In the early season when the supply is limited, in any perishable food class, the price is high. This is a condition designed to reduce the number of buyers. In an open market as the supply increases and the buyer volume must be increased, the prices are lowered to the point where more people with less money can buy and will become customers. Then again as the season passes and the number of buyers must be reduced the price is again increased to a point where the demand will be in line with the supply. This same principle applies in some form or other in every business or industrial operation and transaction.

In the case of labour, while, unfortunately, few of that class will ever read this, just as long as the market will stand the cost and pay the price, just so long will the business be able to pay the higher wages involved in production and services. There is also a law in economics sometimes expressed as "the diminishing purchasing power". That means and actually is the process through which the demands for necessities and eventually the desire for luxuries is satisfied to the limit of purchasing ability of the nation. The deflation then starts. Credit comes into business transactions and merely helps prolong the process. The demand for production has relaxed and while the lowering of prices eases the arrival of the day of atonement, the squeeze begins to appear. The next step is a reduction in labour cost in the manual and especially in the transient and unskilled field. This is the final phase. Business and industry cannot continue to find a market unless this is done through the reduction in manual labour costs, directly accomplished in wage rate adjustments. The human factor has from early times declined to accept this unconditionally. The alternative then is found in shut-downs and lay-offs induced by manual labour's refusal to share the risk at this point. Capital then has to take steps to preserve the investment and production equipment by stopping production and saving funds which might be spent in unearned wages. When business and industry has almost stopped, then, the bottom of the depression period has been reached and a new industry and business is developed on the cost basis that will again make commerce possible on a profitable scale. The wage level will be built on this new level. Union and skilled labour will fight this but they will be forced down into the economic maelstrom by the overwhelming weight of the greater number of workers not in this classification. The answer is that the highly paid war worker and munitions worker will have to accept a lower standard of remuneration. Many of our returned men will have to take work in peace time employment at a lower figure than the overseas and war pay. Will they rehabilitate under peace time industrial and business programs and allow capital to operate, NOW? Must we all suffer another post-war depression to correct the manual labour situation? If this co-operation is not forthcoming, there is going to be another "DEFLATION DEPRESSION" in about five years, the time when the present purchasing power has been well dissipated.

COST AND MANAGEMENT

This is an article on the labour element. There is also the human contribution on the part of management which is the universal joint between ownership and the manual working component of production and business operation. During the immediate post-war period the conversion of labour to peace time employment is going to be made under a pressure on the part of labour for higher wages in line with war-time levels and on the other hand business and industry will be trying to organize the manual labour element on a peace time wage level. Both have merit and each case be considered on its own conditions. It does not appear practical nor even possible to take a national stand so firm as to be a policy which could hope to be enforced on the part of either capital or labour.

Statistics are accumulated figures of past performance subject to a correction based on the effect of current conditions so that they may be used for comparative purposes in establishing future industrial and business policies. It has been stated that the greatest economic weakness in our democratic countries is not over-production of goods but the under-production of new ideas. This has been confirmed in no small degree in the scientific development during this war period of new materials and also of new methods of production. Air transportation of the future is also a new factor.

In establishing our post-war policies, the results of scientific progress in fabrication might be carefully examined, especially in the historical performances of our own type of operation. An example of the trend indicated by one type of industry is as follows:

Year	Number of Employees	Average Yearly Wage	Hours Worked Per Week	Value of Sales Per Employee
1870	300	$ 465.00	60	$1,550.00
1908	3,000	624.00	60	1,986.00
1936	7,337	1,698.00	40	9,175.00

There are several important observations to be taken from this case. More workers are continually being employed. The average earnings are on the increase. The working hours per day are fewer. The sales volume and probably the profit earned per employee is considerably greater.

There are a number of points that might well be considered in making a projection of post-war operations. Wages in many industries will continue to be above the pre-war level. Industrial production and business operation will no doubt be much more efficient and scientific than during the previous peace time period because of the experience gained during the war period. There is therefore a great deal of consolation in the probability that the production volume per employee, due to automatic and more efficient machinery and equipment, will be greater. The greater profit margin in such cases should more than cover the amount of wage increase. Management will be failing in its trust if it does not accomplish this result. It will serve to encourage the manual worker and it will secure the investment.

Any long term policy should be based on the points suggested in the following general conditions plus the facts established from ones' own business or type of industry.

(a) Industry has been able to successfully compete with its rivals

through the introduction of scientific methods and by the addition of mechanical inventions.

(b) The expansion of employment in industry which has resulted from an increased demand may, as a result of the use of machinery, increase the production and lower the cost so that the demand will be further stimulated.

(c) Increased production and sales will result in the expansion of employment in the distributive trade and in the transportation field.

(d) The employment of machinery in volume production, with an increase in hydro power, will encourage an expansion of employment in the production of raw materials.

(e) The expenditure of comparatively higher earnings of mechanized industry upon the products of industries supplying consumable goods, will indirectly stimulate the expansion of employment generally.

With the wealth of information available in every line of business, capable management through reliable statistics and experienced judgment will make satisfactory policies for post-war operations. The variation will be largely caused by the human factor in labour relations.

This human factor is reflected in such places as standard performance, acceptance of peace time wage rates, or in the demand for higher and higher wages in spite of economic conditions and the supreme action in strikes.

There should be a greater educational program on the value of and use of money, to the working classes. This should perhaps be part of the social studies of the seventh and eighth grades. It would help to master the problem of living if people could appreciate why one dollar is not universally valued at one dollar. A Canadian dollar might be worth ninety cents U.S.A., two Mexican dollars, one thousand Chinese dollars, for example. With such an appreciation it might be somewhat cleared, why the cost of living and the corresponding earnings in one locality are in variance with those in another locality. The movement of workers from one part of the country to another during the war period has given the worker, or at least too many of them, the idea that the wages in effect in the cities should also be paid in the country places. The cost of living has been advertised as being more or less standard nationally. This has cerated a labour condition that is going to be hard to bring under peace time control. War time wages are being demanded regardless of the productive capacity of the applicant. This is another human factor. The question is now whether labour of the manual class is going to support industry or whether industry must close down or at least curtail operations till conditions are favourable.

While the cycle of economic progress indicates that there will be another levelling of values within the next decade, let us hope that the human factor will favourably help in that trend by demanding and accepting less direct return to be correspondingly compensated by a reduction in the cost of living.

The human factor in a democratic country is really the privilege gained in the margin of better living standards. None of us will permit these standards to be lowered, through lack of tact on our part, by those among us who do not appear to have "LIVING STANDARDS".

« STUDENT SECTION »

NOTE: The questions published in this issue are taken from the 1945 examination papers. The model solutions given are those prepared by the examiners and used as a basis for marking the papers.

GENERAL ACCOUNTING

Comments by H. P. WRIGHT, C.G.A., R.I.A.

ACCOUNTING II

Question 3 (25 Marks)

On December 31, 1944, the credit side of the balance sheet of A. Co. Ltd., showed as follows:

Accounts payable		$ 50,000
6% Bonds payable		200,000
Share capital authorized and issued—5,000 shares of $100 each	$ 500,000	
Less: Operating deficit	150,000	350,000
		$ 600,000

On that date A Co. Ltd. went into liquidation and sold its assets to Z Co. Ltd. for $500,000, payable $100,000 in cash, $220,000 in 5% Bonds of Z Co. Ltd., and the balance in 10,000 common no par value shares of Z Co. Ltd. taken at $18 per share.

The bondholders of A Co. Ltd. had agreed to accept, in settlement of their claims, 5% Bonds of Z Co. Ltd. in the amount of $220,000. The trade creditors of A Co. Ltd. were to be paid in full in cash.

Give journal entries to close the books of A Co. Ltd.

The opening portion of the question refers to the "credit side" of the balance sheet so that the "debit side" or the assets would naturally total to the same figure, namely, $600,000.

Since the Company went into liquidation it is necessary to set up a "Realization Account" into which all asset and liability accounts are transferred and the account credited with the sale price. This procedure has the effect of reducing the loss or gain on book values down to one figure.

Operating deficits and share capital are not closed into the "Realization Account", as they relate only to shareholders' equity, consequently they are closed into an account known as "Shareholders", and the final debit or credit balance in the "Realization Account" is also closed out to "Shareholders".

The suggested solution to the question follows:

Journal of A Co. Ltd., December 31, 1944

Realization account	$ 600,000	
To Sundry assets		$ 600,000

To close accounts of assets sold to Z Co. Ltd.		
Z Co. Ltd.	500,000	
To Realization account		500,000
To charge purchasing company with agreed price of assets.		
Realization account	20,000	
To 6% Bonds payable		20,000
To record cost of arrangement with bondholders.		
Cash	100,000	
5% Bonds of Z Co. Ltd.	220,000	
No par value shares of Z Co. Ltd.	180,000	
To Z Co. Ltd.		500,000
To record receipt of purchase consideration agreed.		
6% Bonds payable	220,000	
to 5% Bonds of Z Co. Ltd.		220,000
To record discharge of liability to bondholders.		
Accounts payable	50,000	
To Cash		50,000
To record payment in cash of trade creditors.		
Share Capital	500,000	
To operating deficit		150,000
Realization account		120,000
Shareholders		230,000
To transfer equity balances to shareholders.		
Shareholders	230,000	
To Cash		50,000
No par value shares of Z Co. Ltd.		180,000
To record final distribution among shareholders viz., $10 in cash and two shares in Z Co. Ltd. for every share outstanding.		

Students were required to give the journal entries only to close the books of A Co. Ltd. but, since a number of them seemed to have trouble in closing out share capital and arriving at shareholders' equity "T" accounts are set up hereunder in order to follow the transactions to a finality. It will be noted that the balance sheet items have been entered up from the information given in the question and the dates (Dec. 31, 1944) have been eliminated to conserve space.

Dr. Realization a/c Cr.

Assets—Sundry	(J)	600,000	Z Co. Ltd. Sale price	(J)	500,000
Cost of bondholders arrangement	(J)	20,000	To Share Capital	(J)	120,000
		620,000			620,000

Sundry Assets

Balance		600,000	Realization a/c	(J)	600,000

Z Co. Ltd.

Purchase price of Assets	(J)	500,000	Settlement	(J)	500,000

6% Bonds Payable

5% Bonds of Z Co. distributed to bond-holders	(J)	220,000	Balance		200,000
			Cost of arrangement	(J)	20,000
		220,000			220,000

Cash

From Z Co. Ltd.	(J)	100,000	Payment to trade creditors	(J)	50,000
			Distribution	(J)	50,000
		100,000			100,000

5% Bonds (Z Co. Ltd.)

From Z Co. Ltd.	(J)	220,000	Distribution	(J)	220,000

N. P. V. Shares (Z Co. Ltd.)

From Z Co. Ltd.	(J)	180,000	Distribution	(J)	180,000

Accounts Payable

Payments	(J)	50,000	Balance		50,000

Dr. Share Capital Cr.

To Shareholders a/c	(J)	500,000	Balance		500,000

Operating Deficit

Balance		150,000	To Shareholders a/c	(J)	150,000

Shareholders

Distribution	(J)	230,000	Equity Balances	(J)	230,000

COST ACCOUNTING

Comments by A. V. HARRIS, C.A.

ADVANCED COST ACCOUNTING

Question 4. (25 marks.)

The Grant Company submits the following summary of its operating budget for the three months ending 31st March, 1945:

	January	February	March
Sales	$20,000	$50,000	$30,000
Material Purchases	30,000	14,000	16,000
Labour	6,000	5,000	4,000
Depreciation	250	250	300
Insurance—Factory	100	100	100
Taxes—Factory	200	200	200
Miscellaneous Factory Expense	1,000	2,500	1,500
Selling Expenses	3,000	3,000	2,600
Office Expense	2,400	3,000	2,600
Miscellaneous General Expense	1,000	1,000	1,000

At December 31st, 1944, Accounts Receivable outstanding amounted to $60,000, and it is estimated that these accounts, and those which arise in subsequent months are collectable on the basis—60% in the month following, 30% in the second month following, and 10% in the third month following.

Accounts Payable at the end of each month consist of material purchases, selling expenses, and office expenses, and are paid in the following month. On December 31st, 1944, Accounts Payable amounted to $26,000.00.

Labour is paid on a weekly basis and the accruals at the end of each month is computed to be as follows:

December 31st, 1944—$1000. January 31st, 1945—$1400.
February 28th, 1945—$1400. March 31st, 1945—$ 800.

Miscellaneous Factory and Miscellaneous General Expenses are paid 50% in the month in which incurred and 50% in the following month.

Tax bills of $1200 are payable in March.

Machinery costing $20,000 is to be purchased in February, the account being payable in full in March.

Assuming the following inventories:

	Dec. 31, 1944	Jan. 31, 1945	Feb. 28, 1945	Mar. 31, 1945
Work-in-Process	$3,000.00	$ 5,000.00	$6,000.00	$3,000.00
Finished Goods	2,000.00	20,000.00	6,000.00	8,000.00

Prepare—

(1) A budget statement of estimated revenue and expenditure for each of the three months in 1945.

(2) A budget statement of estimated cash receipts and cash disbursements for each of the three months in 1945, showing cash balance at end of each month.

Comments, Question 4—

The solution to this problem might have been presented in a different form—such as preparing a statement of Revenue and Expenditure, and another of Cash Receipts and Disbursements. Expenditure items might have been grouped to give prominence to Cost of Manufacture, Gross Profit on Trading figures, etc. The chief error made by candidates answering this question was that of confusing Revenue and Cash Receipts, Expenditure and Cash Disbursements. For example the sales for the month of January, $20,000, were revenue for that month, but not cash receipts in January; material Purchases of $30,000 were Expenditures applicable to January, but not Cash Disbursements in that month. However, the January sales of $20,000, brought in cash of $12,000 in February, $6,000 in March and $2,000 in April; the Material Purchases of $30,000 in January were Cost Disbursements of February. While the question did not specifically state that Depreciation, Insurance and Taxes were expenditure items, and not cash disbursements, that was to be assumed. Some students did not do so, which indicated a probable lack of practical experience in handling such items. The Labour accruals caused some difficulty in compiling the Cash Disbursements statement, and several students omitted the Work-in-Process and Finished Goods inventories in preparing their Revenue and Expenditure statements.

Advanced Cost Accounting

Solution, Question 4. Grant Company

Budget Summary of Revenue and Expenditure, Receipts and Disbursements

For the Three Months Ending 31st March, 1945

		January		February		March	
	Memo	Revenue	Cash Receipts	Revenue	Cash Receipts	Revenue	Cash Receipts
Cash on hand 1st of month					3,400		9,750
Accounts Receivable:							
December and Prior	60,000		36,000		18,000		6,000
January	20,000	20,000			12,000		6,000
February	50,000			50,000			30,000
March	30,000					30,000	
		20,000	36,000	50,000	33,400	30,000	32,250

		January		February		March	
Work in Progress:	Memo	Expend	Cash Payts.	Expend.	Cash Payts.	Expend.	Cash Payts.
Opening Inventory		3,000		5,000		6,000	
Materials—January	30,000	30,000			30,000		
February	14,000			14,000			14,000
March	16,000					16,000	
Labour— January	6,000	6,000	5,600				
February	5,000			5,000	5,000		
March	4,000					4,000	4,600
Manufacturing Expense:							
Depreciation		250		250		300	
Insurance		100		100		100	
Taxes		200		200		200	1,200
Misc. factory expense		1,000	500	2,500	1,750	1,500	2,000
Closing Inventory		(5,000)		(6,000)		(3,000)	
Finished Goods—Open. Inven.		2,000		20,000		6,000	
Clos. Inven.		(20,000)		(6,000)		(8,000)	
Selling Expenses		3,000		3,000	3,000	2,600	3,000
Office Expenses		2,400		3,000	2,400	2,600	3,000
Misc. Gen. Expenses		1,000	500	1,000	1,000	1,000	1,000
Accts. Payable December			26,000				
Machinery							20,000
		23,950	32,600	42,050	43,150	29,300	48,800
Profit or Loss		(3,950)		7,950		700	
Cash on hand, end of month			3,400		(9,750)		(16,550)
		20,000	36,000	50,000	33,400	30,000	32,250

FUNDAMENTALS OF COST ACCOUNTING

Question 4. (15 marks.)

Morrison Manufactuers Ltd. now pay their men on a day-rate basis. They wish to know whether it would be to their advantage to introduce a system of differential piece-rates.

At present the average operator, working at his normal rate, turns out 5 articles in a day of 7 hours, and is paid at the rate of 60c per hour.

The Company proposes that men who can increase their output will be paid as follows:

(a) Those who produce 6 articles in a day to be paid 90c per article.
(b) Those who produce 7 articles in a day to be paid 96c per article.
(c) Those who produce 8 articles in a day to be paid $1.02 per article.
(d) Those who produce 9 articles in a day to be paid $1.08 per article.

The charge for Factory Overhead is 35c per production hour. It is presumed that the rate per hour would remain the same under the increased production.

State whether the Company will save or lose by the proposed arrangement, and give figures to support your statement.

Solution, Question 4.

MORRISON MANUFACTURERS LIMITED DIFFERENTIAL PIECE RATE

	Normal 5 articles per day at .84c	6 articles at .90c	7 articles at .96c	8 articles at $1.02	9 articles at $1.08
Direct Labour Cost	$4.20	$5.40	$6.72	$ 8.16	$ 9.72
Factory Overhead, 7 hours at .35c	2.45	2.45	2.45	2.45	2.45
Total Cost of Direct Labour and Factory Overhead	6.65	7.85	9.17	10.61	12.17
Number of Articles produced per day	5	6	7	8	9
Total Cost of Direct Labour and Factory Overhead per article	1.33	1.30-5/6	1.31-1/7	1.32-5/8	1.35-1/5

The Company could be expected to save money in the proposed arrangement. At their present average each of the operators are turning out five articles per day and it would probably be only in exceptional cases that operators would produce nine articles per day consistently.

Comments, Question 4—

This problem was a relatively simple one, and if the candidate in examination was able to withstand the mental strain put on him or her by the term "differential piece-rate", he or she was presented with an easy 15 marks.

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